IN THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS

1-62. (Canceled).

63. (Currently Amended) An isolated galactose oxidase variant ~~which has at least 90% amino acid sequence identity to~~ comprising SEQ ID NO:10 wherein the amino acid at position 537 is N~~,~~ and

~~which variant has a mutation in at least one amino acid aligned with an amino acid~~ having at least one mutation in an amino acid selected from the group consisting of S10, M70, C515, N535, N537, and N413.

64. (Currently Amended) An isolated galactose oxidase variant ~~which has at least 90% amino acid sequence identity to~~ comprising SEQ ID NO:10 wherein the amino acid at position 537 is N~~;~~ and

~~which variant has~~ having at least one ~~of the amino acid mutations corresponding to~~ mutation selected from the group consisting of V494A and G195E, and at least one ~~of the~~ amino acid mutation~~s corresponding to~~ selected from the group consisting of S10P, M70V, C515S, N535D, N537D and N413D.

65. (Currently Amended) The isolated variant of claim 64, ~~which has the amino acid mutation corresponding to N537D~~ comprising SEQ ID NO:10.

66. (Currently Amended) The isolated variant of claim 64, ~~which has the amino acid mutation corresponding to~~ wherein the variant has a V494A mutation.

67. (Currently Amended) The isolated variant of claim 66, ~~comprising the amino acid mutation corresponding to~~ wherein the variant has a C515S mutation.

68. (Currently Amended) The isolated variant of claim 66, ~~comprising the amino acid mutation corresponding to~~ wherein the variant has a S10P mutation.

69. (Currently Amended) The isolated variant of claim 66, further comprising a silent mutation at ~~a position corresponding to~~ amino acid P136.

70. (Currently Amended) The isolated variant of claim 68, further comprising a silent mutation at ~~a position corresponding to~~ amino acid P136.

71. (Currently Amended) The isolated variant of claim 66, ~~further comprising the amino acid mutation corresponding to~~ wherein the variant has a G195E mutation.

72. (Currently Amended) The isolated variant of claim 71, further comprising a silent mutation in at least one ~~of the positions corresponding to~~ amino acid selected from the group consisting of A3 and P136.

73. (Currently Amended) The isolated variant of claim 66, ~~comprising the amino acid mutation corresponding to~~ wherein the variant has a N535D mutation.

74. (Currently Amended) The isolated variant of claim 73, further comprising a silent mutation in at least one ~~of the positions corresponding to~~ amino acid selected from the group consisting of P136, L312, and T218.

75. (Currently Amended) The isolated variant of claim 66, ~~further comprising the amino acid mutation corresponding to~~ wherein the variant has a M70V mutation.

76. (Currently Amended) The isolated variant of claim 75, further comprising a silent mutation at ~~a position corresponding to~~ amino acid P136.

77. (Currently Amended) The isolated variant of claim 64, ~~which has the amino acid mutations corresponding to~~ wherein the variant comprises mutations of S10P, M70V, G195E, V494A and N535D.

78. (Currently Amended) The isolated variant of claim 77, further comprising a silent mutation at ~~a position corresponding to~~ amino acid P136.

79. (Currently Amended) The isolated variant of claim 64, ~~which has the amino acid mutation corresponding to~~ wherein the variant has an N413D mutation.

80. (Currently Amended) The isolated variant of claim 79, further comprising a silent mutation at ~~a position corresponding to~~ amino acid S550.

81. (Currently Amended) The isolated variant of claim 66, ~~comprising the amino acid mutation corresponding to~~ wherein the variant has an N413D mutation.

82. (Currently Amended) The isolated variant of claim 81, further comprising a silent mutation in at least one ~~of positions corresponding to~~ amino acid selected from the group consisting of S550 and S610.

83. (Currently Amended) An isolated galactose oxidase variant ~~which has at least 90% amino acid sequence identity to~~ derived from a wild-type *D. dendroides* galactose oxidase ~~from~~ wherein the *D. dendroides* has accession no. ATCC46032 and wherein the variant comprises a mutation in at least one amino acid ~~aligned with an amino acid~~ selected form the group consisting of S10, M70, C515, N535, N537, and N413 of the wild-type galactose oxidase when aligned with SEQ ID NO:10.

84. (Currently Amended) The isolated variant of claim 83, further comprising at least one mutation in an amino acid ~~corresponding to an amino acid~~ selected from the group consisting of G195 and V494 of the wild-type galactose

oxidase, and wherein the variant has improved D-galactose oxidation activity as compared to the wild-type galactose oxidase.

85. (Currently Amended) The isolated variant of claim 83, wherein the mutation is selected from ~~a mutation corresponding to at least one of~~ the group consisting of S10P, M70V, N413D, C515S, N535D, and N537D.

86. (Currently Amended) The isolated variant of claim 85, further comprising at least one amino acid mutation ~~corresponding to a mutation~~ selected from the group consisting of G195E and V494A.

87. (Currently Amended) An isolated galactose oxidase variant ~~which has at least 90% amino acid sequence identity to~~ derived from a wild-type *D. dendroides* galactose oxidase ~~from~~ wherein the *D. dendroides* has accession no. ATCC46032 and wherein the variant comprises a mutation in ~~an~~ amino acid ~~corresponding to~~ N537 of the wild-type galactose oxidase when aligned with SEQ ID NO:10, and wherein the variant has improved D-galactose oxidation activity as compared to the wild-type galactose oxidase.

88. (Previously Presented) The isolated variant of claim 87, wherein the mutation is N537D.

89. (Currently Amended) An isolated galactose oxidase variant ~~which has at least 90% amino acid sequence identity to~~ derived from a wild-type *D.*

dendroides galactose oxidase ~~from~~ wherein the *D. dendroides* has accession no. ATCC46032 and wherein the variant comprises mutations in amino acids ~~corresponding to~~ V494 and C515 of the wild-type galactose oxidase when aligned with SEQ ID NO:10, and wherein the variant has improved D-galactose oxidation activity as compared to the wild-type galactose oxidase.

90. (Previously Presented) The isolated variant of claim 89, wherein the mutations are V494A and C515S.

91. (Canceled)

92. (Canceled)

93. (Currently Amended) An isolated galactose oxidase variant ~~which has at least 90% amino acid sequence identity to~~ derived from a wild-type *D. dendroides* galactose oxidase ~~of~~ wherein the *D. dendroides* has accession no. ATCC46032 and wherein the variant comprises mutations in amino acids ~~corresponding to~~ V494 and S10 of the wild-type galactose oxidase when aligned with SEQ ID NO:10, and wherein the variant has improved D-galactose oxidation activity as compared to the wild-type galactose oxidase.

94. (Previously Presented) The isolated variant of claim 93, wherein the V494 mutation is V494A, and the S10 mutation is S10P.

95. (Canceled)

96. (Canceled)

97. (Currently Amended) An isolated galactose oxidase variant ~~which has at least 90% amino acid sequence identity to~~ derived from a wild-type *D. dendroides* galactose oxidase ~~of~~ wherein the *D. dendroides* has accession no. ATCC46032 and wherein the variant comprises mutations in amino acids ~~corresponding to~~ V494~~,~~ and N535 of the wild-type galactose oxidase when aligned with SEQ ID NO:10, and wherein the variant has improved D-galactose oxidation activity as compared to the wild-type galactose oxidase.

98. (Previously Presented) The isolated variant of claim 97, wherein the V494 mutation is V494A, and the N535 mutation is N535D.

99. (Currently Amended) An isolated galactose oxidase variant ~~which has at least 90% amino acid sequence identity to~~ derived from a wild-type *D. dendroides* galactose oxidase ~~of~~ wherein the *D. dendroides* has accession no. ATCC46032 and wherein the variant comprises mutations in amino acids ~~corresponding to~~ V494 and M70 of the wild-type galactose oxidase when aligned with SEQ ID NO:10, wherein the variant has improved D-galactose oxidation activity as compared to the wild-type galactose oxidase.

100. (Previously Presented) The isolated variant of claim 99, wherein the V494 mutation is V494A, and the M70 mutation is M70V.

101. (Currently Amended) An isolated galactose oxidase variant ~~which has at least 90% amino acid sequence identity to~~ derived from a wild-type *D. dendroides* galactose oxidase ~~from~~ wherein the *D. dendroides* has accession no. ATCC46032 and wherein the variant comprises mutations in amino acids ~~corresponding to~~ V494, S10, M70, G195, and N535 of the wild-type galactose oxidase when aligned with SEQ ID NO:10, and wherein the variant has improved D-galactose oxidation activity as compared to the wild-type galactose oxidase.

102. (Previously Presented) The isolated variant of claim 101, wherein the V494 mutation is V494A, the S10 mutation is S10P, the M70 mutation is M70V, the G195 mutation is G195E, and the N535 mutation is N535D.

103. (Currently Amended) An isolated galactose oxidase variant which has at least ~~90~~ 99% amino acid sequence identity to SEQ ID NO:10 wherein the amino acid at position 537 is N, which variant has a mutation in an amino acid corresponding to N413.

104. (Previously Presented) The isolated variant of claim 103, wherein the mutation is N413D.

105. (Currently Amended) An isolated galactose oxidase variant ~~which has at least 90% amino acid sequence identity to~~ derived from a wild-type *D. dendroides* galactose oxidase ~~of~~ wherein the *D. dendroides* has accession no. ATCC46032 and wherein the variant comprises a mutation in ~~an~~ amino acid ~~corresponding to~~ N413 of the wild-type galactose oxidase when aligned with SEQ ID NO:10, wherein the variant has improved D-galactose oxidation activity compared to the wild-type galactose oxidase.

106. (Previously Presented) The isolated variant of claim 105, wherein the N413 mutation is N413D.

107. (Currently Amended) An isolated galactose oxidase variant which has at least ~~90~~ 99% amino acid sequence identity to SEQ ID NO:10 wherein the amino acid at position 537 is N, which variant has mutations in amino acids corresponding to N413 and V494.

108. (Previously Presented) The isolated variant of claim 107, wherein the N413 mutation is N413D, and the V494 mutation is V494A.

109. (Currently Amended) An isolated galactose oxidase variant ~~which has at least 90% amino acid sequence identity to~~ derived from a wild-type *D. dendroides* galactose oxidase ~~of~~ wherein the *D. dendroides* has accession no. ATCC46032 and wherein the variant comprises mutations in amino acids ~~corresponding to~~ N413 and V494 of the wild-type galactose oxidase when aligned

with SEQ ID NO:10, and wherein the variant has improved D-galactose oxidation activity as compared to the wild-type galactose oxidase.

110. (Previously Presented) The isolated variant of claim 109, wherein the N413 mutation is N413D, and the V494 mutation is V494A.

111. (Currently Amended) An isolated galactose oxidase having an amino acid sequence selected from the group consisting of SEQ ID NOS: ~~10-21~~ 10-20 and 21.

112. (Canceled)

113. (Previously Presented) The isolated variant of claim 63, wherein the galactose oxidase variant has about 99% amino acid sequence identity to SEQ ID NO:10 wherein the amino acid at position 537 is N.

114. (Previously Presented) The isolated variant of claim 64, wherein the galactose oxidase variant has about 99% amino acid sequence identity to SEQ ID NO:10 wherein the amino acid at position 537 is N.

115. (Canceled)

116. (Currently Amended) The isolated variant of claim 83, wherein the galactose oxidase variant has about 99% amino acid sequence identity to wild-type

D. Dendroides galactose oxidase ~~of~~ wherein the *D. dendroides* has accession no. ATCC46032.

117. (Currently Amended) The isolated variant of claim 87, wherein the galactose oxidase variant has about 99% amino acid sequence identity to wild-type *D. Dendroides* galactose oxidase ~~of~~ wherein the *D. dendroides* has accession no. ATCC46032.

118. (Currently Amended) The isolated variant of claim 89, wherein the galactose oxidase variant has about 99% amino acid sequence identity to wild-type *D. Dendroides* galactose oxidase ~~of~~ having accession number ATCC46032.

119. (Currently Amended) The isolated variant of claim 93, wherein the galactose oxidase variant has about 99% amino acid sequence identity to wild-type *D. Dendroides* galactose oxidase ~~of~~ wherein the *D. dendroides* has accession no. ATCC46032.

120. (Currently Amended) The isolated variant of claim 97, wherein the galactose oxidase variant has about 99% amino acid sequence identity to wild-type *D. Dendroides* galactose oxidase ~~of~~ wherein the *D. dendroides* has accession no. ATCC46032.

121. (Currently Amended) The isolated variant of claim 99, wherein the galactose oxidase variant has about 99% amino acid sequence identity to wild-type

D. Dendroides galactose oxidase ~~of~~ wherein the *D. dendroides* has accession no. ATCC46032.

122. (Currently Amended) The isolated variant of claim 101, wherein the galactose oxidase variant has about 99% amino acid sequence identity to wild-type *D. Dendroides* galactose oxidase ~~of~~ wherein the *D. dendroides* has accession no. ATCC46032.

123. (Currently Amended) The isolated variant of claim 103, wherein the galactose oxidase variant has about 99% amino acid sequence identity to wild-type *D. Dendroides* galactose oxidase ~~of~~ wherein the *D. dendroides* has accession no. ATCC46032.

124. (Currently Amended) The isolated variant of claim 105, wherein the galactose oxidase variant has about 99% amino acid sequence identity to wild-type *D. Dendroides* galactose oxidase ~~of~~ wherein the *D. dendroides* has accession no. ATCC46032.

125. (Currently Amended) The isolated variant of claim 109, wherein the galactose oxidase variant has about 99% amino acid sequence identity to wild-type *D. Dendroides* galactose oxidase ~~of~~ wherein the *D. dendroides* has accession no. ATCC46032.

126. (New) An isolated polypeptide that is 99% identical to a wild-type galactose oxidase from *D. Dendroides* having accession number ATCC46032, wherein the polypeptide comprises at least one mutation selected from the group consisting of V494A, G195E, S10P, M70V, C515S, N535D, N537D and N413D when the wild-type galactose oxidase sequence is aligned with SEQ ID NO:10, and wherein the polypeptide has galactose oxidase activity.

127. (New) An isolated polypeptide that is at least 98% identical to a polypeptide comprising a sequence selected from the group consisting of SEQ ID NO:10-20 and 21, wherein the polypeptide has improved galactose oxidase activity compared to a wild-type galactose oxidase obtained from *D. dendroides* having accession no. ATCC46032.